

ALASKA

POWER

AUTHORITY

BRIEFING

Alaska State Legislature

BETTYE FAHRENKAMP, Chairman
ROBERT H. ZIEGLER, SR., Vice Chairman
DICK ELIASON
PAUL FISCHER
VIC FISCHER
BOB MULCAHY
ARLISS STURGULEWSKI



POUCH V
STATE CAPITAL
JUNEAU, ALASKA 99811
(907) 465-3834
(907) 465-3835

Senate

Committee on Resources

MINUTES

February 13, 1984
3:10 pm

Senate Finance
5th floor, Capitol

MEMBERS PRESENT

Senator Fahrenkamp, Chairman	Senator Sackett
Senator Ziegler, Vice Chair	Senator Pettyjohn
Senator Eliason	
Senator P. Fischer	
Senator V. Fischer	
Senator Mulcahy	
Senator Sturgulewski	

CALENDAR

Briefing by Alaska Power Authority.

JOINT MEETING WITH SENATE STATE AFFAIRS AND SENATE LABOR AND COMMERCE.

Larry Crawford, Executive Director, Alaska Power Authority, briefed the Committees on the duties and functions of the Alaska Power Authority. Using slides and charts, he discussed the Authority's goals and objectives, organization, legislative mandate, programs and projects, its project development process, the results of recent accounting and management audits, and the need for new legislation. He also answered questions on the status of negotiations with the "four dam pool" communities on signing power sale agreements. The process of developing financing plans for hydro projects was also discussed.

Dick Lyon, Commissioner, Department of Commerce and Economic Development, answered questions on the amount of money in the Governor's FY 85 budget for obtaining FERC licensing for the Susitna project.

The meeting adjourned at 4:30 pm.

Alaska State Legislature

BETTYE FAHRENKAMP, Chairman
ROBERT H. ZIEGLER, SR., Vice Chairman
DICK ELIASON
PAUL FISCHER
VIC FISCHER
BOB MULCAHY
ARLISS STURGULEWSKI



POUCH V
STATE CAPITAL
JUNEAU, ALASKA 99811
(907) 465-3834
(907) 465-3835

Senate

Committee on Resources

MEMORANDUM

TO: Senate Resources Committee Members
Senate State Affairs Committee Members
Senate Labor and Commerce Committee Members

FROM: Senate Resources Committee Staff

RE: Committee Meeting, Monday, February 13, 1984

DATE: February 13, 1984

Attached is additional background information for today's briefing by Larry Crawford, Executive Director, Alaska Power Authority (APA).

- 1) Summary of Recent Audits/Reviews of the Alaska Power Authority
- 2) Briefing papers submitted by the Alaska Power Authority

Today's meeting will be held from 3:00 pm - 5:00 pm in the Senate Finance Committee Room.

ALASKA POWER AUTHORITY
Legislative Briefing
Senate Resources, State Affairs, and Labor and Commerce Committees
Presented By
Larry D. Crawford, Executive Director

INTRODUCTION

The State of Alaska's direct participation in the development of power projects is unique when compared to the other 49 states. This uniqueness lies both in the extent to which the State finances public power projects and in the absence of both interstate and intrastate power grids in Alaska that would permit the transfer of electricity throughout the State or to and from other States and Canada.

Much of Alaska remains undeveloped or underdeveloped, with no statewide or regional electrification program. The Power Authority is attempting to fill this void, but the power supply planning process is an evolving one, and the Power Authority, together with the Administration and the Legislature, is still developing policies and procedures to meet electrical energy needs throughout the State as equitably and economically as possible. It should be noted that it has been difficult to develop a statewide electrification program, as the Power Authority's efforts have been limited by staff and budget.

Sound power project development is contingent on good power supply planning. Electric power supply planning in Alaska has not been well defined and has not been fully integrated with local and regional electrical system planning. Therefore, the Power Authority is proposing to prepare a long range electrification plan for the State to be reviewed and updated annually.

Long range planning by the Power Authority will conform to State policy, which is to develop Alaska's energy resources to strengthen and diversify the economy and improve the standard of living by providing electrical energy at the lowest reasonable economic, social and environmental costs, with an emphasis on local and renewable resources. In many cases hydroelectric projects have been found to be the most economic and viable long term power supply option. Nevertheless, a critical problem with hydroelectric projects is their high construction costs which, coupled with comparatively low utilization in the early years, typically causes wholesale power rates to be higher than the cost of electricity from thermal sources in the early project years. This makes it extremely difficult for a single utility, or even a consortium of utilities, to embark on a hydroelectric project, even when it proves to be the most economic power supply source over the life of that project.

Higher initial power costs are offset through legislative appropriations that directly fund a portion of the cost of a project. Administered by the Power Authority, these appropriations reduce the amount of capital that must be borrowed for the development of power projects. This, in turn, directly lowers the wholesale cost of electricity compared to the cost if the power project were entirely debt financed. But power project financing is just one of the ongoing responsibilities -- although a major and highly visible activity -- of the Power Authority.

MANDATE

The Power Authority is authorized by the Legislature to conduct reconnaissance and feasibility studies; issue bonds and administer other loan and grant programs; design, construct, and operate power projects; and enter into contracts for power sales. The extent of the Power Authority's involvement in any power project depends on local needs, resources and preferences, project financial requirements, and State budget considerations.

This authority, granted by the Legislature through the establishment of the Power Authority as a public corporation in 1976 (AS 44.56.030), has been amended and its responsibilities expanded through subsequent legislation. In meeting its legislative mandates, the Power Authority identifies, evaluates, develops, and operates electrical power production and conservation facilities throughout Alaska, utilizing the most appropriate technology -- except nuclear generation -- from among those commercially available.

GOALS AND OBJECTIVES

The goal of the Power Authority, consistent with its legislative mandate and the Administration's stated policy for natural resource management, is the orderly and economic development of hydroelectric, fossil fuel, coal, geothermal, and other electrical energy resources in order that they may contribute in a substantial way to the economic vitality of the State.

Specific objectives for the remainder of FY 1984 are shown in Attachment 1. Objectives for FY 85, shown in Attachment 2 are contingent upon the level of funding received by the Power Authority.

ORGANIZATION

The Power Authority, initially funded and staffed in 1978, is governed under executive and legislative oversight by a seven-member Board of Directors appointed by the Governor. The Board includes four members of the Governor's Cabinet and three public members. An Executive Director, currently Mr. Larry D. Crawford, is responsible for the day to day management of the Power Authority. The agency is currently undergoing a management review designed to increase its operating efficiency and provide recommendations for power supply planning.

The Power Authority's organizational structure is designed for the effective development and administration of programs and projects that fall under its purview, including power project development and the operation of completed projects. The full development of a power production project involves a five step process designed to meet local, regional, and statewide electrical energy needs.

PROJECT DEVELOPMENT PROCESS

Step one of the development process is a reconnaissance study to assess the electrical energy and space heating needs of a region or community. The reconnaissance study identifies those power supply options that merit more detailed evaluation.

Next, a feasibility study, based on reconnaissance study recommendations, is conducted to analyze the technical, economic, social and environmental viability of the power supply plan in question. The result of the feasibility study is a recommendation for the best electrical energy supply alternative for the region or community to be served. After the best project alternative is determined to be economically and financially feasible, a financing plan is submitted to the Legislature for approval. Statutory mandates state that design work cannot begin until the Legislature authorizes the project and new Power Authority policy also dictates that any substantial design work will not be initiated on new projects until power sales agreements are signed.

After legislative approval comes licensing and design. Major projects require licenses and permits from various State and Federal agencies, including a Federal Energy Regulatory Commission (FERC) license if the project is hydroelectric. Design includes the preparation of the technical design, plans and specifications. The design phase also includes the development of bid requests to be released for competitive bid by construction and material supply contractors. For large projects, the Power Authority contracts with an engineering firm to accomplish the technical design and manage the various studies required for FERC licensing. Due to the large commitment of technical personnel required during this stage, it is doubtful if the Power Authority will develop the capability to accomplish internally the design of large power projects.

Project construction begins once the design is completed and all required licenses and permits have been obtained. The Power Authority may contract with a large engineering or construction firm to assist in construction management activities. As a policy on larger projects, the Power Authority does not allow the firm designing the project to also act as the construction management firm.

The final step in this process is the operation of the completed power project. When a project is completed, the Power Authority either operates the facility independently or enters into an operating agreement with a local utility. The Power Authority sells power wholesale to local utilities, which then retail it to consumers. As the agency develops and operates additional power projects, it will increasingly assume a role as a generation and transmission entity.

PROGRAMS AND PROJECTS

The Power Authority conducts several legislatively approved programs ranging from the project development programs to the administration of loans and grants. These programs both support the project development process and provide the budgetary framework by which the Power Authority fulfills its mission. The widest ranging of these programs is the Energy Program for Alaska.

Energy Program for Alaska

This program, adopted by the Legislature in 1981, provides for State construction, ownership, and operation of power generating projects throughout the State. Program objectives are achieved by providing financing through the Power Authority for the development of new power projects and the acquisition of existing projects. The Energy Program includes a check and balance system for project development and approval, through which a project's feasibility must be approved by the Legislature before expenditures for

design and construction can begin. Following legislative approval and funding, the Power Authority designs and constructs the project, which is then owned by the State.

Under the Energy Program for Alaska, the Power Authority acquired the Solomon Gulch project, then being constructed by Copper Valley Electric Association. This project serves Valdez and Glennallen. The Swan Lake project, then being developed by Ketchikan Public Utilities, was also acquired under this program. In addition, the Power Authority assumed responsibility for developing and constructing the Tye Lake project for Wrangell and Petersburg, and the Terror Lake project near Kodiak.

These hydroelectric projects are known as the Four Project Pool, which has become the cornerstone of the Energy Program for Alaska. The Solomon Gulch project is in commercial operation; the Tye project is now providing test power to Wrangell and Petersburg; Swan Lake is providing test power to Ketchikan; and the Terror Lake project is now 95 percent complete with power projected to be on line in September 1984. With the completion of these projects, the role of the Power Authority in power generation, transmission, and the wholesale marketing of electrical energy is significantly expanding.

When the Legislature began appropriating funds in 1979 for the construction of hydroelectric projects, it was intended that these projects were to be fully financed by the State. However, declining State revenues resulting from a drop in international oil prices has forced the abandonment, at least for the foreseeable future, of full State funding of these projects. Lower oil prices have also made the short term cost of hydro power from new projects less advantageous, when compared to the cost of diesel generated electricity, than it once was expected to be. Power Authority economic and financial analyses have necessarily assumed conservative long term oil price increases. Increased energy consumption associated with improved economic activity, a decline in the value of the dollar, or disruptions in oil supplies could cause significant oil price increases.

In the face of the financial reality of declining State revenue, the Legislature amended the Energy Program for Alaska with House Bill 9 (HB 9) in 1982. The original legislation had established a single wholesale power rate for all Power Authority projects in the State. HB 9 changed this by pooling the debt service of the Power Authority projects.

To meet the requirements of HB 9 and the needs of consumers in the communities served by the Four Project Pool as equitably as possible, on February 6, 1984 the Alaska Power Authority proposed new power sales agreements with those communities. The projects serve Valdez-Glennallen, Ketchikan, Wrangell-Petersburg, and Kodiak. These agreements are the result of several months of negotiation and extensive coordination between the Power Authority, the utilities to be served by the projects, financial institutions, the Governor's Office, and the legislative leadership. Under the agreements, initial consumer rates for the four hydroelectric projects are designed not to exceed the cost of diesel-generated power, and, in the long-run, will provide more favorable rates. They should provide significant benefits to the communities served by the projects as well as communities to be served by future projects that will be included in the program.

The agreements include a \$64 million rate-stabilization plan to reduce the early year power costs. Approximately \$35 million of the rate-stabilization plan will require a legislative appropriation this session, with the remainder coming from bond proceeds and interest earnings.

The February 6, 1984 proposed agreement is currently under review by the five affected communities. Power Authority Board action is scheduled for February 22, 1984.

Now that the Four Project Pool is being completed and coming on line under existing legislation, an in-depth review by the Legislature and Administration of the Energy Program for Alaska is needed to ensure that the Energy Program will benefit all Alaskans.

The Power Authority will recommend to the 1985 Legislature expanding the Energy Program to include the Bradley Lake Hydroelectric Projects. Construction is continuing on the Anchorage-Fairbanks Intertie which is also part of the Energy Program with a scheduled completion for December 1984. This project will, for the first time, allow electrical energy transmission between these two generation and load centers.

Reconnaissance Program

This program provides for surveys of all electric power sources available to regions and communities in the State and evaluations of the supply alternatives, including more efficient use of existing diesel and fuel oil generation facilities. Reconnaissance studies consider power supply options, including conservation, geothermal, wood and peat, tidal, coal, natural gas, and solar energy sources. Subsequent phases of project development are based on reconnaissance study results.

Power Project Loan Fund

Based on specific legislative appropriations, this long term loan program provides State assistance to local utilities or units of government for the development of new power production facilities or improvement or expansion of existing facilities.

Power Cost Assistance Program

This program reduces the cost of up to 600 kilowatt hours of electricity a month for both residential and commercial customers in rural areas where rates are generally high due to the cost of diesel fuel. The Power Authority pays approximately 40-60 percent of the cost of this electricity following Alaska Public Utilities Commission (APUC) determination of the amount of power that can be subsidized. Ninety-five communities served by fifty-one utilities participated in this program in FY 84.

Rural Feasibility Program

This program provides for detailed analyses of power supply alternatives identified in reconnaissance studies. Regional feasibility studies are in progress for the Bristol Bay and Lower Kuskokwim areas. A variety of other

feasibility studies are underway throughout the State, and additional studies will be initiated as information and funding permit.

Rural Electrification Program

This program, which began in FY 84, funds the engineering and design of small power production facilities in rural Alaska. Project sites currently under detailed consideration are King Cove, Larsen Bay, Old Harbor, Elfin Cove, Pelican, Atka and Angoon. Under this program, the Power Authority certifies the technical, economic, and financial viability of projects prior to construction.

Rural Electrification Revolving Loan Fund

This low interest loan program provides State assistance to local utilities for extending electrical service into unserved areas of the State. Loans are made only to electrical utilities certified by the APUC, and must be approved by the Power Authority and a local advisory committee.

Waste Heat Recovery Program

This program provides for the planning, design, and construction of facilities to recover waste heat from existing diesel generators for use in the space heating of nearby buildings. Since 1981, 13 waste heat recovery facilities have been constructed in rural Alaska. Funds are being requested for FY 85 to construct two additional facilities and make detailed evaluations of up to 35 other projects to determine which are the most cost-effective.

Susitna

The Susitna Hydroelectric Project is a two dam development on the Susitna River north of Talkeetna that, when completed, will be the largest power project in Alaska history. The Power Authority has submitted a license application to the Federal Energy Regulatory Commission (FERC), which is reviewing the application and preparing a draft Environmental Impact Statement. Through FY 1984 approximately \$92 million in State funds will have been spent on feasibility studies and FERC Licensing activities for this project.

Bradley Lake

The Power Authority is also preparing a FERC License application for the Bradley Lake project on the Kenai Peninsula. When on line, this project will meet a portion of the Railbelt power requirements.

RESPONSE TO ACCOUNTING AND MANAGEMENT AUDIT:

The legislative Budget and Audit (LB&A) and Office of Management and Budget (OMB) audits and the Power Authority management study have pointed to the need for more rigorous management of programs and projects.

In response to their recommendations, the Power Authority is now placing greater emphasis on planning and marketing, more stringent approaches to project management and development and better coordination between the utilities. In addition, substantial project design work will not proceed until power sales agreements for that project have been signed. This reorientation within the Power Authority will ensure that these management practices are applied to continuing operations as well as one-time projects.

The Power Authority Board of Directors, recognizing that the future role of the Power Authority requires sound planning, has also commissioned a review of current operations, procedural changes, areas of emphasis and scheduling of projects. A report of this review effort is due in mid-March.

THE NEED FOR NEW LEGISLATION

To provide for the orderly development of Alaska's electrical energy resources and the State's power production, conservation, and transmission projects, the Power Authority's immediate legislative needs include:

- * Legislation implementing and ensuring the long-range viability of the Four Project Pool. This includes:
 - Approval and financing of a Rate Stabilization Fund (with a total State appropriation of approximately \$35 million) to off-set the difference between the costs of hydro and diesel-generated electricity during the early years of the project.
 - Classification of the first four pool projects as one project to allow a combined rate for debt service.
 - Authorization for the sale of surplus power from these projects to industrial users at a separate rate.
 - Elimination of the "Susitna Clause" to reduce potential future risk to the Four Project Pool communities.
 - Limitation of the impact of new projects coming into the system on the debt requirement of the first four projects.
- * Authorization of the Bradley Lake Project as a project in the Energy Program for Alaska at a 1985 bid price of \$375,000,000.
- * Legislative appropriations for Operating and Capital Budgets sufficient to carry out and oversee the programs and projects for which the Power Authority is responsible.
- * The Power Authority also requests that the Legislature endorse the establishment of a Major Projects Fund, which could finance new State power projects in addition to other capital intensive State projects.

Some of these needs are being addressed by legislation already introduced. Bills addressing other needs will be introduced as this session progresses. Two bills not included in the Power Authority's legislative package but affecting agency
1848/152/7

activities amend the Power Cost Assistance Program and the Rural Electrification Loan Fund. The Power Authority is preparing comments on both.

SUMMARY

The Power Authority has, in its seven years of operation, evolved into the primary Statewide agency for electric power planning, development, and power facilities construction. With the completion of the Four Project Pool, the Power Authority also stands on the threshold of becoming a major wholesaler of electrical power. Through its wide range of programs, the Power Authority will continue to offer the residents of Alaska the comprehensive services necessary to meet its legislative mandate. Specific requests for statutory changes and the funding of the agency's Operation and Capital Budgets have been made of this Legislature to facilitate the Energy Program for Alaska. An in-depth review of the Energy Program for Alaska, and the overall scope of the Power Authority is also needed. The Power Authority will conduct such a review and discuss major revisions with legislators during 1984. We plan to recommend to the 1985 Legislature a comprehensive electrification program.

Thank you.

FY 84 OBJECTIVES

Angoon

Complete Findings and Recommendations for reconnaissance level investigation; begin feasibility study of best alternative power supply plan.

Lower Kuskokwim Regional Alternatives

Complete Interim Findings and Recommendations for reconnaissance level investigation for next phase of development of apparent best alternative or alternatives.

Black Bear Lake

Complete addendum to feasibility study; get OMB review of revised Findings and Recommendations; decide action with respect to the FERC license already submitted; take appropriate action and maintain FERC license application as appropriate.

Craig/Klawock Intertie

Complete financial analyses in support of utility decisions with respect to loan application for intertie construction; hold public information meetings as necessary in appropriate communities; work with all parties to potential agreement to facilitate purchase of power from Alaska Timber Corporation for sale to Craig and Klawock.

Bristol Bay Regional Alternatives

Request supplemental appropriation for continuation of base line fisheries data collection; complete Interim Findings and Recommendations including preliminary financial analyses of best alternatives.

Chester Lake

Meet with residents of Metlakatla and utility representatives to inform with respect to preliminary financial analysis results. Negotiate power sales agreements if public support favors development of the Chester Lake Hydroelectric Project. Initiate aggressive energy conservation program.

Silver Lake

Complete Interim Findings and Recommendations; perform preliminary financial analyses as necessary.

Fairbanks District Heating and Chena 6 Station Alternatives

Complete jointly managed feasibility study in support of Municipality's application for State loan for best alternative.

Grant Lake

Complete feasibility study and Findings and Recommendations; OMB review; decision with respect to submittal of FERC license application; preparation of FERC license application.

West Creek

Consider intertie with Northern Canada Power as alternative to West Creek hydro-electric alternative (presently not recommended due to railroad economic problems).

Kake/Petersburg Intertie

Complete feasibility study and Findings and Recommendations.

Larson Bay

Complete Findings and Recommendations; obtain financial analysis and begin power sales discussions as appropriate.

Old Harbor

Complete Findings and Recommendations; obtain financial analysis and begin power sales discussions as appropriate.

King Cove

Complete Findings and Recommendations; obtain financial analysis and begin power sales discussions as appropriate.

Rural Community Feasibility Studies

Meet with Corps of Engineers to obtain current status of their studies of communities named in the State appropriation for this purpose; prepare plan of action and budget for balance of this appropriation incorporating Corps findings and findings of Power Authority reconnaissance studies. Begin feasibility studies of alternatives for named communities as appropriate.

Togiak

Initiate stream gaging for Kurtluk River alternative.

Elim

Initiate stream gaging at Peterson Creek.

Unalaska Geothermal

Complete reconnaissance Findings and Recommendations; initiate summer 1984 field investigations.

Atka

Complete Findings and Recommendations for reconnaissance study incorporating pre-feasibility stream gaging and reassessment of waste heat economics. Begin feasibility confirmation as appropriate.

Elfin Cove

Complete reconnaissance study and provide technical assistance to the community to assist them in planning their own project as requested.

FY 85 OBJECTIVES

Statewide Electrification Plan

Develop background data base on communities and regions and assimilate with power supply planning on a regional system basis.

Energy Program for Alaska

Develop proposed legislation to include the Susitna and Bradley Lake projects into the Energy Program of Alaska. Determine financial and technical impact of such inclusion and ways to mitigate such impact.

Project Development Process

Refine the project development process so as to include project status with accounting status into a Management Information System in order to meet internal and external demands for status.

ALASKA POWER AUTHORITY

Legislative Briefing

Senate Resources, State Affairs, and Labor and Commerce Committees

Presented By

Larry D. Crawford, Executive Director

INTRODUCTION

The State of Alaska's direct participation in the development of power projects is unique when compared to the other 49 states. This uniqueness lies both in the extent to which the State finances public power projects and in the absence of both interstate and intrastate power grids in Alaska that would permit the transfer of electricity throughout the State or to and from other States and Canada.

Much of Alaska remains undeveloped or underdeveloped, with no statewide or regional electrification program. The Power Authority is attempting to fill this void, but the power supply planning process is an evolving one, and the Power Authority, together with the Administration and the Legislature, is still developing policies and procedures to meet electrical energy needs throughout the State as equitably and economically as possible. It should be noted that it has been difficult to develop a statewide electrification program, as the Power Authority's efforts have been limited by staff and budget.

Sound power project development is contingent on good power supply planning. Electric power supply planning in Alaska has not been well defined and has not been fully integrated with local and regional electrical system planning.

Therefore, the Power Authority is proposing to prepare a long range electrification plan for the State to be reviewed and updated annually.

Long range planning by the Power Authority will conform to State policy, which is to develop Alaska's energy resources to strengthen and diversify the economy and improve the standard of living by providing electrical energy at the lowest reasonable economic, social and environmental costs, with an emphasis on local and renewable resources. In many cases hydroelectric projects have been found to be the most economic and viable long term power supply option. Nevertheless, a critical problem with hydroelectric projects is their high construction costs which, coupled with comparatively low utilization in the early years, typically causes wholesale power rates to be higher than the cost of electricity from thermal sources in the early project years. This makes it extremely difficult for a single utility, or even a consortium of utilities, to embark on a hydroelectric project, even when it proves to be the most economic power supply source over the life of that project.

Higher initial power costs are offset through legislative appropriations that directly fund a portion of the cost of a project. Administered by the Power Authority, these appropriations reduce the amount of capital that must be borrowed for the development of power projects. This, in turn, directly lowers the wholesale cost of electricity compared to the cost if the power project were entirely debt financed. But power project financing is just one of the ongoing responsibilities -- although a major and highly visible activity -- of the Power Authority.

MANDATE

The Power Authority is authorized by the Legislature to conduct reconnaissance and feasibility studies; issue bonds and administer other loan and grant programs; design, construct, and operate power projects; and enter into contracts for power sales. The extent of the Power Authority's involvement in any power project depends on local needs, resources and preferences, project financial requirements, and State budget considerations.

This authority, granted by the Legislature through the establishment of the Power Authority as a public corporation in 1976 (AS 44.56.030), has been amended and its responsibilities expanded through subsequent legislation. In meeting its legislative mandates, the Power Authority identifies, evaluates, develops, and operates electrical power production and conservation facilities throughout Alaska, utilizing the most appropriate technology -- except nuclear generation -- from among those commercially available.

GOALS AND OBJECTIVES

The goal of the Power Authority, consistent with its legislative mandate and the Administration's stated policy for natural resource management, is the orderly and economic development of hydroelectric, fossil fuel, coal, geothermal, and other electrical energy resources in order that they may contribute in a substantial way to the economic vitality of the State.

Specific objectives for the remainder of FY 1984 are shown in Attachment 1. Objectives for FY 85, shown in Attachment 2 are contingent upon the level of funding received by the Power Authority.

ORGANIZATION

The Power Authority, initially funded and staffed in 1978, is governed under executive and legislative oversight by a seven-member Board of Directors appointed by the Governor. The Board includes four members of the Governor's Cabinet and three public members. An Executive Director, currently Mr. Larry D. Crawford, is responsible for the day to day management of the Power Authority. The agency is currently undergoing a management review designed to increase its operating efficiency and provide recommendations for power supply planning.

The Power Authority's organizational structure is designed for the effective development and administration of programs and projects that fall under its purview, including power project development and the operation of completed projects. The full development of a power production project involves a five step process designed to meet local, regional, and statewide electrical energy needs.

PROJECT DEVELOPMENT PROCESS

Step one of the development process is a reconnaissance study to assess the electrical energy and space heating needs of a region or community. The reconnaissance study identifies those power supply options that merit more detailed evaluation.

Next, a feasibility study, based on reconnaissance study recommendations, is conducted to analyze the technical, economic, social and environmental viability of the power supply plan in question. The result of the feasibility study is a recommendation for the best electrical energy supply alternative for the region or community to be served. After the best project alternative is determined to be economically and financially feasible, a financing plan is submitted to the Legislature for approval. Statutory mandates state that design work cannot begin until the Legislature authorizes the project and new Power Authority policy also dictates that any substantial design work will not be initiated on new projects until power sales agreements are signed.

After legislative approval comes licensing and design. Major projects require licenses and permits from various State and Federal agencies, including a Federal Energy Regulatory Commission (FERC) license if the project is hydroelectric. Design includes the preparation of the technical design, plans and specifications. The design phase also includes the development of bid requests to be released for competitive bid by construction and material supply contractors. For large projects, the Power Authority contracts with an engineering firm to accomplish the technical design and manage the various studies required for FERC licensing. Due to the large commitment of technical personnel required during this stage, it is doubtful if the Power Authority will develop the capability to accomplish internally the design of large power projects.

Project construction begins once the design is completed and all required licenses and permits have been obtained. The Power Authority may contract with a large engineering or construction firm to assist in construction management activities.

As a policy on larger projects, the Power Authority does not allow the firm designing the project to also act as the construction management firm.

The final step in this process is the operation of the completed power project. When a project is completed, the Power Authority either operates the facility independently or enters into an operating agreement with a local utility. The Power Authority sells power wholesale to local utilities, which then retail it to consumers. As the agency develops and operates additional power projects, it will increasingly assume a role as a generation and transmission entity.

PROGRAMS AND PROJECTS

The Power Authority conducts several legislatively approved programs ranging from the project development programs to the administration of loans and grants. These programs both support the project development process and provide the budgetary framework by which the Power Authority fulfills its mission. The widest ranging of these programs is the Energy Program for Alaska.

Energy Program for Alaska

This program, adopted by the Legislature in 1981, provides for State construction, ownership, and operation of power generating projects throughout the State. Program objectives are achieved by providing financing through the Power Authority for the development of new power projects and the acquisition of existing projects. The Energy Program includes a check and balance system for project development and approval, through which a project's feasibility must be approved by the Legislature before expenditures for

design and construction can begin. Following legislative approval and funding, the Power Authority designs and constructs the project, which is then owned by the State.

Under the Energy Program for Alaska, the Power Authority acquired the Solomon Gulch project, then being constructed by Copper Valley Electric Association. This project serves Valdez and Glennallen. The Swan Lake project, then being developed by Ketchikan Public Utilities, was also acquired under this program. In addition, the Power Authority assumed responsibility for developing and constructing the Tye Lake project for Wrangell and Petersburg, and the Terror Lake project near Kodiak.

These hydroelectric projects are known as the Four Project Pool, which has become the cornerstone of the Energy Program for Alaska. The Solomon Gulch project is in commercial operation; the Tye project is now providing test power to Wrangell and Petersburg; Swan Lake is providing test power to Ketchikan; and the Terror Lake project is now 95 percent complete with power projected to be on line in September 1984. With the completion of these projects, the role of the Power Authority in power generation, transmission, and the wholesale marketing of electrical energy is significantly expanding.

When the Legislature began appropriating funds in 1979 for the construction of hydroelectric projects, it was intended that these projects were to be fully financed by the State. However, declining State revenues resulting from a drop in international oil prices has forced the abandonment, at least for the foreseeable future, of full State funding of these projects. Lower oil prices have also made the short term cost of hydro power from new

projects less advantageous, when compared to the cost of diesel generated electricity, than it once was expected to be. Power Authority economic and financial analyses have necessarily assumed conservative long term oil price increases. Increased energy consumption associated with improved economic activity, any decline in the value of the dollar, or any disruptions in oil supplies could cause significant oil price increases.

In the face of the financial reality of declining State revenue, the Legislature amended the Energy Program for Alaska with House Bill 9 (HB 9) in 1982. The original legislation had established a single wholesale power rate for all Power Authority projects in the State. HB 9 changed this by pooling the debt service of the Power Authority projects.

To meet the requirements of HB 9 and the needs of consumers in the communities served by the Four Project Pool as equitably as possible, on February 6, 1984 the Alaska Power Authority proposed new power sales agreements with those communities. The projects serve Valdez-Glennallen, Ketchikan, Wrangell-Petersburg, and Kodiak. These agreements are the result of several months of negotiation and extensive coordination between the Power Authority, the utilities to be served by the projects, financial institutions, the Governor's Office, and the legislative leadership. Under the agreements, initial consumer rates for the four hydroelectric projects are designed not to exceed the cost of diesel-generated power, and, in the long-run, will provide more favorable rates. They should provide significant benefits to the communities served by the projects.

The agreements include a \$64 million rate-stabilization plan to reduce the early year power costs. Approximately \$35 million of the rate-stabilization plan will require a legislative appropriation this session, with the remainder coming from bond proceeds and interest earnings.

The February 6, 1984 proposed agreement is currently under review by the five affected communities. Power Authority Board action is scheduled for February 22, 1984.

The Power Authority will recommend to the 1985 Legislature expanding the Energy Program to include the Susitna Project. Construction is continuing on the Anchorage-Fairbanks Intertie. This project will, for the first time, allow electrical energy transmission between these two generation and load centers.

An in-depth review of the Energy Program for Alaska by the Legislature and Administration is needed to ensure that the Energy Program will function effectively for the benefit of all Alaskans.

Reconnaissance Program

This program provides for surveys of all electric power sources available to regions and communities in the State and evaluations of the supply alternatives, including more efficient use of existing diesel and fuel oil

generation facilities. Reconnaissance studies consider power supply options, including conservation, geothermal, wood and peat, tidal, coal, natural gas, and solar energy sources. Subsequent phases of project development are based on reconnaissance study results.

Power Project Loan Fund

Based on specific legislative appropriations, this long term loan program provides State assistance to local utilities or units of government for the development of new power production facilities or improvement or expansion of existing facilities.

Power Cost Assistance Program

This program reduces the cost of up to 600 kilowatt hours of electricity a month for both residential and commercial customers in rural areas where rates are generally high due to the cost of diesel fuel. The Power Authority pays approximately 40-60 percent of the cost of this electricity following Alaska Public Utilities Commission (APUC) determination of the amount of power that can be subsidized. Ninety-five communities served by fifty-one utilities participated in this program in FY 84.

Rural Feasibility Program

This program provides for detailed analyses of power supply alternatives identified in reconnaissance studies. Regional feasibility studies are in progress for the Bristol Bay and Lower Kuskokwim areas. A variety of other

feasibility studies are underway throughout the State, and additional studies will be initiated as information and funding permit.

Rural Electrification Program

This program, which began in FY 84, funds the engineering and design of small power production facilities in rural Alaska. Project sites currently under detailed consideration are King Cove, Larsen Bay, Old Harbor, Eifin Cove, Pelican, Atka and Angoon. Under this program, the Power Authority certifies the technical, economic, and financial viability of projects prior to construction.

Rural Electrification Revolving Loan Fund

This low interest loan program provides State assistance to local utilities for extending electrical service into unserved areas of the State. Loans are made only to electrical utilities certified by the APUC, and must be approved by the Power Authority and a local advisory committee.

Waste Heat Recovery Program

This program provides for the planning, design, and construction of facilities to recover waste heat from existing diesel generators for use in the space heating of nearby buildings. Since 1981, 13 waste heat recovery facilities have been constructed in rural Alaska. Funds are being requested for FY 85 to construct two additional facilities and make detailed

evaluations of up to 35 other projects to determine which are the most cost-effective.

Susitna

The Susitna Hydroelectric Project is a two dam development on the Susitna River north of Talkeetna that, when completed, will be the largest power project in Alaska history. The Power Authority has submitted a license application to the Federal Energy Regulatory Commission (FERC), which is reviewing the application and preparing a draft Environmental Impact Statement. Through FY 1984 approximately \$92 million in State funds will have been spent on feasibility studies and FERC Licensing activities for this project.

Bradley Lake

The Power Authority is now preparing a FERC License application for the Bradley Lake project on the Kenai Peninsula. When on line, this project will meet a portion of the Railbelt power requirements.

RESPONSE TO ACCOUNTING AND MANAGEMENT AUDITS

The legislative Budget and Audit (LB&A) and Office of Management and Budget (OMB) audits and the Power Authority management study have pointed to the need for more rigorous management of programs and projects.

In response to their recommendations, the Power Authority is now placing greater emphasis on planning and marketing, more stringent approaches to project management and development and better coordination between the utilities. In addition, substantial project design work will not proceed until power sales agreements for that project have been signed. This reorientation within the Power Authority will ensure that these management practices are applied to continuing operations as well as one-time projects.

The Power Authority Board of Directors, recognizing that the future role of the Power Authority requires sound planning, has also commissioned a review of current operations, procedural changes, areas of emphasis and scheduling of projects. A report of this review effort is due in mid-March.

THE NEED FOR NEW LEGISLATION

To provide for the orderly development of Alaska's electrical energy resources and the State's power production, conservation, and transmission projects, the Power Authority's immediate legislative needs include:

- * Legislation implementing and ensuring the long-range viability of the Four Project Pool. This includes:
 - ° Approval and financing of a Rate Stabilization Fund (with a total State appropriation of approximately \$35 million) to off-set the difference between the costs of hydro and diesel-generated electricity during the early years of the project.

- ° Classification of the first four pool projects as one project to allow a combined rate for debt service.
- ° Authorization for the sale of surplus power from these projects to industrial users at a separate rate.
- ° Elimination of the "Susitna Clause" to reduce potential future risk to the Four Project Pool communities.
- ° Limitation of the impact of new projects coming into the system on the debt requirement of the first four projects.
- * Authorization of the Bradley Lake Project as a project in the Energy Program for Alaska at a 1985 bid price of \$354 million.
- * Legislative appropriations for Operating and Capital Budgets sufficient to carry out and oversee the programs and projects for which the Power Authority is responsible.
- * The Power Authority also requests that the Legislature endorse the establishment of a Major Projects Fund, which could finance new State power projects in addition to other capital intensive State projects.

Some of these needs are being addressed by legislation already introduced. Bills addressing other needs will be introduced as this session progresses. Two bills not included in the Power Authority's legislative package but affecting agency

activities amend the Power Cost Assistance Program and the Rural Electrification Loan Fund. The Power Authority is preparing comments on both.

SUMMARY

The Power Authority has, in its six years of operation, evolved into the primary Statewide agency for electric power planning, development, and power facilities construction. With the completion of the Four Project Pool, the Power Authority also stands on the threshold of becoming a major wholesaler of electrical power. Through its wide range of programs, the Power Authority will continue to offer the residents of Alaska the comprehensive services necessary to meet its legislative mandate. Specific requests for statutory changes and the funding of the agency's Operation and Capital Budgets have been made of this Legislature to facilitate the Energy Program for Alaska. An in-depth review of the Energy Program for Alaska, and the overall scope of the Power Authority is also needed. The Power Authority will conduct such a review and discuss major revisions with legislators during 1984. We plan to recommend to the 1985 Legislature a comprehensive electrification program.

Thank you.

FY 84 OBJECTIVES

Anchorage-Fairbanks Intertie

Continue construction of the 170 mile transmission line between Willow and Healy.

Bradley Lake

Submit license application to FERC. Authorization of the Project in the Energy Program.

Swan Lake

Complete construction; provide test power to Ketchikan; begin commercial power production after power sales agreements are signed.

Susitna

Continue appropriate action to support the FERC license application.

Terror Lake

Complete major construction activities on all phases of the project.

Tyea Lake

Complete construction; provide test power to Wrangell and Petersburg; begin commercial power production after power sales agreements are signed.

Angoon

Complete Findings and Recommendations for reconnaissance level investigation; begin feasibility study of best alternative power supply plan.

Lower Kuskokwim Regional Alternatives

Complete Interim Findings and Recommendations for reconnaissance level investigation for next phase of development of apparent best alternative or alternatives.

Black Bear Lake

Complete addendum to feasibility study; get OMB review of revised Findings and Recommendations; decide action with respect to the FERC license already submitted; take appropriate action and maintain FERC license application as appropriate.

Craig/Klawock Intertie

Complete financial analyses in support of utility decisions with respect to loan application for intertie construction; hold public information meetings as necessary in appropriate communities; work with all parties to potential agreement to facilitate purchase of power from Alaska Timber Corporation for sale to Craig and Klawock.

Bristol Bay Regional Alternatives

Request supplemental appropriation for continuation of base line fisheries data collection; complete Interim Findings and Recommendations including preliminary financial analyses of best alternatives.

Chester Lake

Meet with residents of Metlakatla and utility representatives to inform with respect to preliminary financial analysis results. Negotiate power sales agreements if public support favors development of the Chester Lake Hydroelectric Project. Initiate aggressive energy conservation program.

Silver Lake

Complete Interim Findings and Recommendations; perform preliminary financial analyses as necessary.

Fairbanks District Heating and Chena 6 Station Alternatives

Complete jointly managed feasibility study in support of Municipality's application for State loan for best alternative.

Grant Lake

Complete feasibility study and Findings and Recommendations; OMB review; decision with respect to submittal of FERC license application; preparation of FERC license application.

West Creek

Consider intertie with Northern Canada Power as alternative to West Creek hydroelectric alternative (presently not recommended due to railroad economic problems).

Kake/Petersburg Intertie

Complete feasibility study and Findings and Recommendations.

Larson Bay

Complete Findings and Recommendations; obtain financial analysis and begin power sales discussions as appropriate.

Old Harbor

Complete Findings and Recommendations; obtain financial analysis and begin power sales discussions as appropriate.

King Cove

Complete Findings and Recommendations; obtain financial analysis and begin power sales discussions as appropriate.

Rural Community Feasibility Studies

Meet with Corps of Engineers to obtain current status of their studies of communities named in the State appropriation for this purpose; prepare plan of action and budget for balance of this appropriation incorporating Corps findings and findings of Power Authority reconnaissance studies. Begin feasibility studies of alternatives for named communities as appropriate.

Togiak

Initiate stream gaging for Kurtluk River alternative.

Elim

Initiate stream gaging at Peterson Creek.

Unalaska Geothermal

Complete reconnaissance Findings and Recommendations; initiate summer 1984 field investigations.

Atka

Complete Findings and Recommendations for reconnaissance study incorporating pre-feasibility stream gaging and reassessment of waste heat economics. Begin feasibility confirmation as appropriate.

Elfin Cove

Complete reconnaissance study and provide technical assistance to the community to assist them in planning their own project as requested.

FY 85 OBJECTIVES

Statewide Electrification Plan

Develop comprehensive state-wide and regional power plan.

Energy Program for Alaska

Include the Susitna project in the Energy Program for Alaska.

Prepare comprehensive program and obtain any legislation necessary for the implementation.

Development of Projects

Initiation of new projects and continuation of existing projects is contingent upon FY 85 funding.

Organization/Management

Continue to improve the management process and implement recommendations resulting from the current management study.

Alaska State Legislature

BETTYE FAHRENKAMP, Chairman
ROBERT H. ZIEGLER, SR., Vice Chairman
DICK ELIASON
PAUL FISCHER
VIC FISCHER
BOB MULCAHY
ARLISS STURGULEWSKI



POUCH V
STATE CAPITAL
JUNEAU, ALASKA 99811
(907) 465-3834
(907) 465-3835

Senate

Committee on Resources

TO: Senate Resources Committee Members
FROM: Senate Resources Committee Staff
RE: Briefing by Alaska Power Authority
DATE: February 9, 1984

On Monday, February 13, at 3:00 pm in the Senate Finance Committee Room, Larry Crawford, Executive Director of the Alaska Power Authority will brief the Resources Committee on the various programs and projects of the Alaska Power Authority. Members of the Senate Labor and Commerce and Senate State Affairs committees will also attend.

Attached is a brief outline of the topics Mr. Crawford has been asked to discuss. There will, of course, be time for questions also.

ALASKA STATE LEGISLATURE

SENATE STATE AFFAIRS COMMITTEE

SENATOR VIC FISCHER, CHAIRMAN

POUCH V, JUNEAU 99811

(907) 465-4954



MEMORANDUM

February 1, 1984

TO: Larry Crawford
Executive Director, APA

FROM: Senator Bettye Fahrenkamp
Chair, Senate Resources Committee

Senator Vic Fischer
Chair, Senate State Affairs Committee

Senator Dick Eliason
Chair, Senate Labor and Commerce Committee

RE: APA Overview Scheduled for Feb. 13, 1984

We have, in consultation with your office, scheduled Monday, Feb. 13, 3-5 p.m. for an overview of the Alaska Power Authority. The meeting will be held in the Senate Finance Room.

You are encouraged to bring whatever staff, handouts, and visual aids you would like to assist in the presentation. A brief handout outlining the programs and projects of the authority as well as any new information that you might have prepared would be helpful to the committees. We would very much appreciate receiving written material in advance so that committee members can have some time prior to the meeting for review. Flip charts would be very useful for displaying information during the presentation.

The committees are principally interested in a status report on programs and projects, an explanation of the management, accounting, and policy changes that have been made at the authority, and any statutory changes that may be requested of the Legislature. We are not interested in technical information concerning dam heights, number of turbines, etc. The following is a suggested outline for the presentation:

- * overview of programs
 - Energy Program for Alaska
 - loan programs
 - power cost assistance
- * overview of projects
 - 4-dam pool
 - Green Lake
 - Bradley, Grant, Snettisham, Susitna
 - rural, waste heat
 - interties
- * response to LB&A and APA accounting and management audits
- * new direction
 - new roles of Administration, APA Board, director
 - changes in procedures
 - changes in emphasis
 - schedule for completing, initiating projects

-- requested statutory changes

The Senate State Affairs Committee will be scheduling meetings specific to Susitna and its financing later in the month and expects to go into depth on that issue then. Committee members would, however, like a general briefing on the status at this time, particularly regarding the schedule for the update, finance plan, response to the Kentco report, and determining the issues that remain to be addressed.

Should you need more information, the staff contacts are Sandra Schubert, aide to Senator Fahrenkamp (465-3834), and Nancy Lord, aide to Senator Fischer (465-4954). We look forward to meeting with you on February 13.

cc: Governor Sheffield
Commissioner Dick Lyon



Official Business

Alaska State Legislature

Senate Committee on State Affairs

Vic Fischer, Chair • Pouch V
Juneau, Alaska 99811
(907) 465-4954

February 10, 1984

TO: Senate Resources, State Affairs, and Labor and Commerce
Committee Members

FROM: Senate State Affairs Staff

RE: Summary of Recent Audits/Reviews of the Alaska Power Authority

Several accounting and management studies of the Alaska Power Authority have been conducted over the course of the past year. These include a Legislative Budget and Audit report, an accounting audit by Price Waterhouse, and a management and organizational review by C. T. Main. Following is a brief summary of the principal findings and recommendations.

A Special Report on the Alaska Power Authority, Division of Legislative Audit, August 5, 1983.

The main purpose of the report was to determine if contracting procedures of the APA were in compliance with statutes and administrative procedures. A secondary purpose was to determine the status of projects and their authorization balances. The report made five recommendations:

1. The APA should comply with all applicable statutes and procedures governing contracting.

The study found that 75 of the APA's 176 contracts were not properly executed; the contracts involved totalled over \$30 million.

2. The APA should review its procedure of amending professional service contracts and comply with applicable State statutory and administrative requirements.

The study found that the APA frequently amended contracts as to scope, amount, and period of performance. In 176 contracts there were 194 change orders and contract amendments; 72 of these were for the Tye project. Most of the revisions involved professional services contracts; these amendments accounted for \$40 million and increased professional services contract costs by 63%.

3. The APA should strengthen its internal control over contract administration.

The study found that a complete listing of contracts was not maintained and that the function of controlling contract documents was not centrally located.

4. The Department of Administration should adequately review and approve sole source contracts in compliance with applicable State statutes and administrative requirements.

The study found that of 77 sole source contracts, 44 did not adequately justify not soliciting competitive bids.

5. The Legislature, in conjunction with the APA, should review the status of various projects to determine if unexpended project funds should be lapsed into the General Fund.

The study found that 28 projects had unobligated balances of over \$14 million; over \$10 million represents the balance of the completed Solomon Gulch project.

In the APA's response to the study, it took the position of general agreement with the first three recommendations but criticized the audit for applying standards and procedures on a retroactive basis that were not thought to apply at the time of the violations. Regarding recommendation #4, the APA disagreed that adequate justification for sole source contracts was not given. On the last recommendation, the APA provided a table of projects, balances, and recommendations regarding disposition of balances.

Financial Statements, Price Waterhouse, September 23, 1983.

The balance sheet and statements of revenues and expenses present the financial position of the APA at the end of the 1983 fiscal year. This straight-forward accounting shows combined assets of \$693 million compared to total liabilities of \$295 million.

Price Waterhouse had performed previous audits in 1981 and 1982 in which they included 13 recommendations concerning the development of financial and reporting systems including specific accounting and budgeting methods and procedures. Because these recommendations are now so dated and have assumably been addressed, they are not listed here.

This latest financial statement includes a thorough explanation of the financing, including the short-term notes, of the projects in the Four Dam Pool.

APA Management and Organizational Review, Phase I, C. T. Main, Inc., November 1983.

This report addresses the policies of the APA, the decision-making process, the program development process, and organizational issues and alternatives. Phase II, due to be completed in mid-February, will address the organizational needs in more detail and include recommendations on staffing levels, job descriptions, and procedures. A summary of Phase I findings and recommendations follows.

Policy. The report found that APA policy has evolved on a project-by-project or decision-by-decision basis. It recommended that policy be more clearly defined in order to improve operating efficiency,

to enable the Board to guide APA progress, and to minimize the overall project costs which in turn will minimize the cost of power to consumers.

Decision making. The report found that no guidelines exist for the Board decision-making function. It recommended that the Board establish specific policies and procedures for making major decisions in the areas of finance, policy, contracts, change orders, risk, planning, and key personnel matters, and that it should also consider establishing procedures for delegations of authority to the Executive Director.

Project development. The report noted that projects enter the APA development process in a number of ways and stages and that the process and requirements for each project vary considerably. It determined that a project flow chart recently developed by APA staff is too specific and hydro-oriented to be useful as a policy document, and it recommended that the APA annually conduct a public planning process that will establish program goals and a work plan for the APA.

Organization. The report concluded that major organizational changes should be made at the APA. Phase II will include specific recommendations.